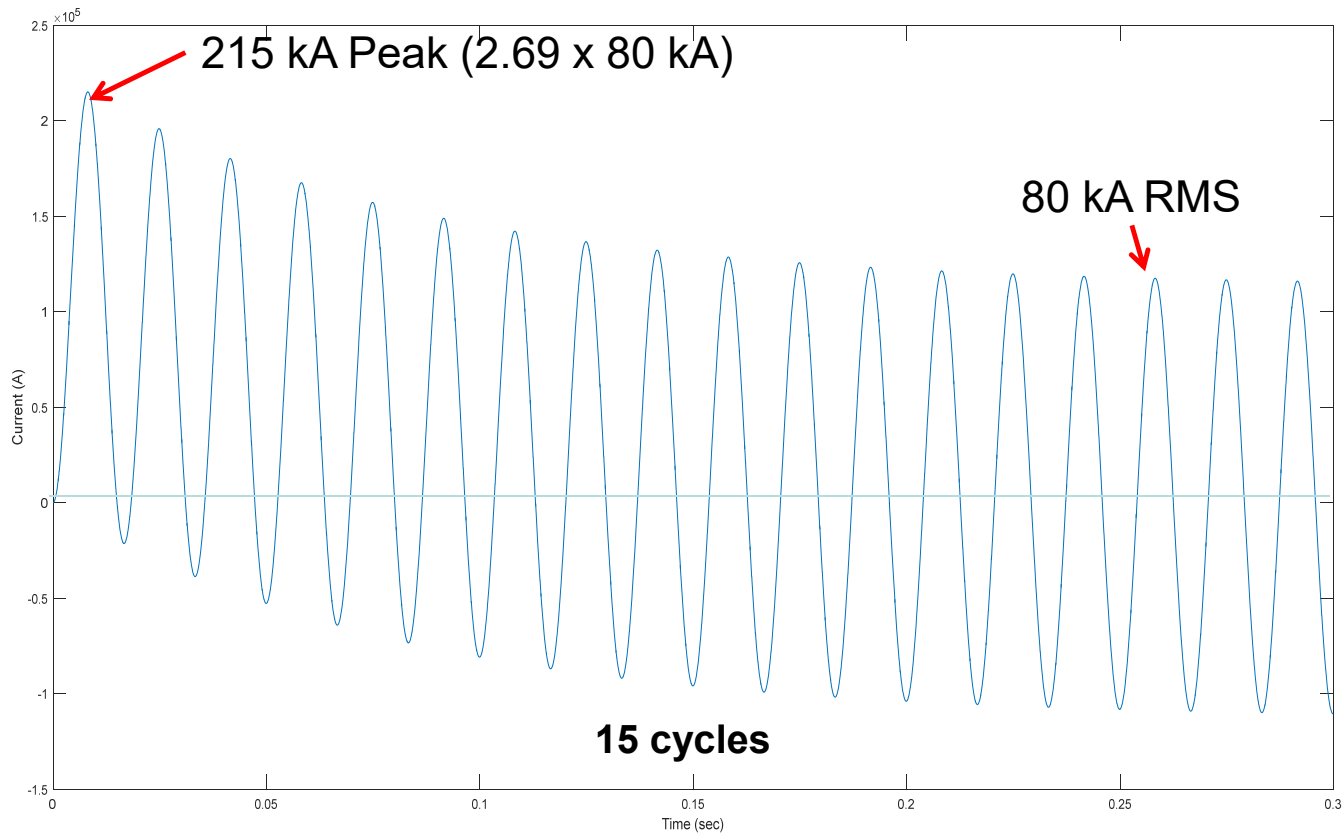




Fault Current Capabilities of Cable Systems for Parallel Temporary Protective Grounds

Nigel Hampton,
Thomas Lancaster &
Josh Perkel

Test Current Waveform (ASTM F855 Table 2, High X/R Ratio)

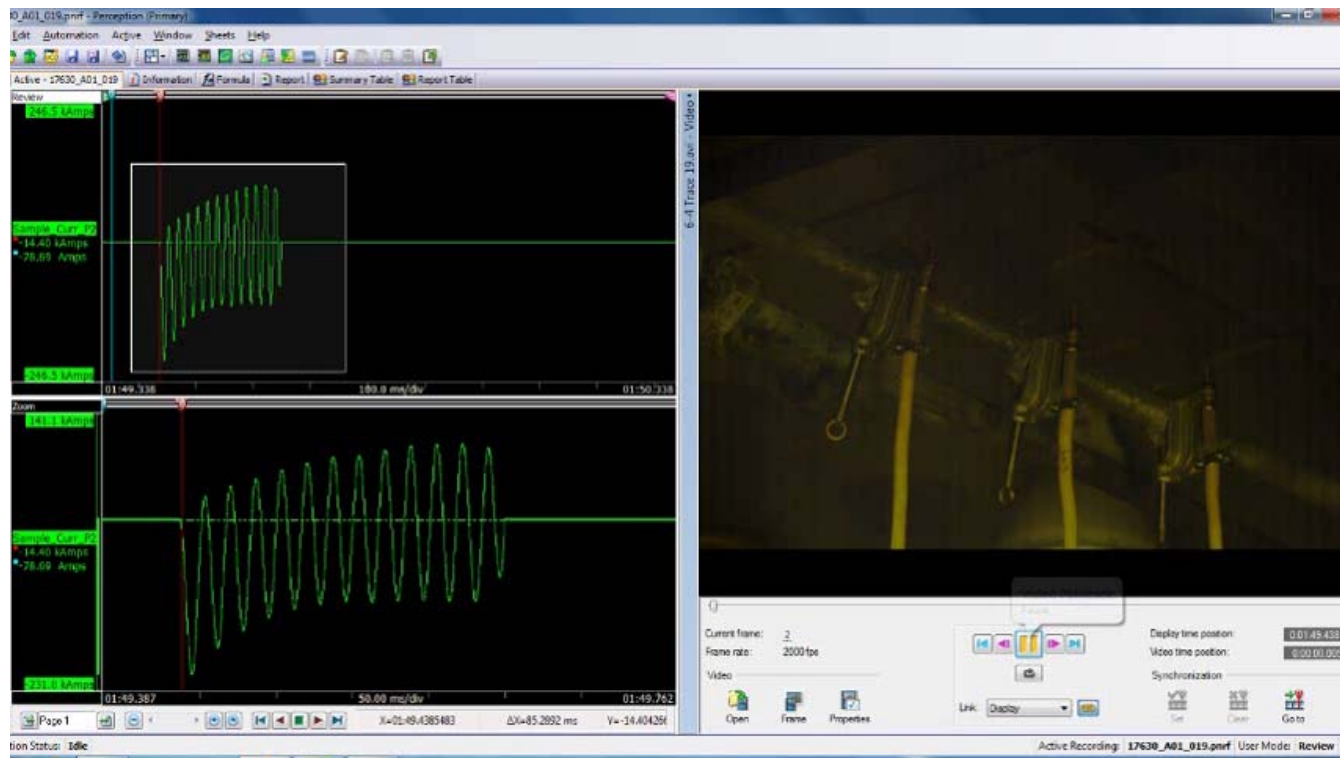


Fault Tests are Challenging...

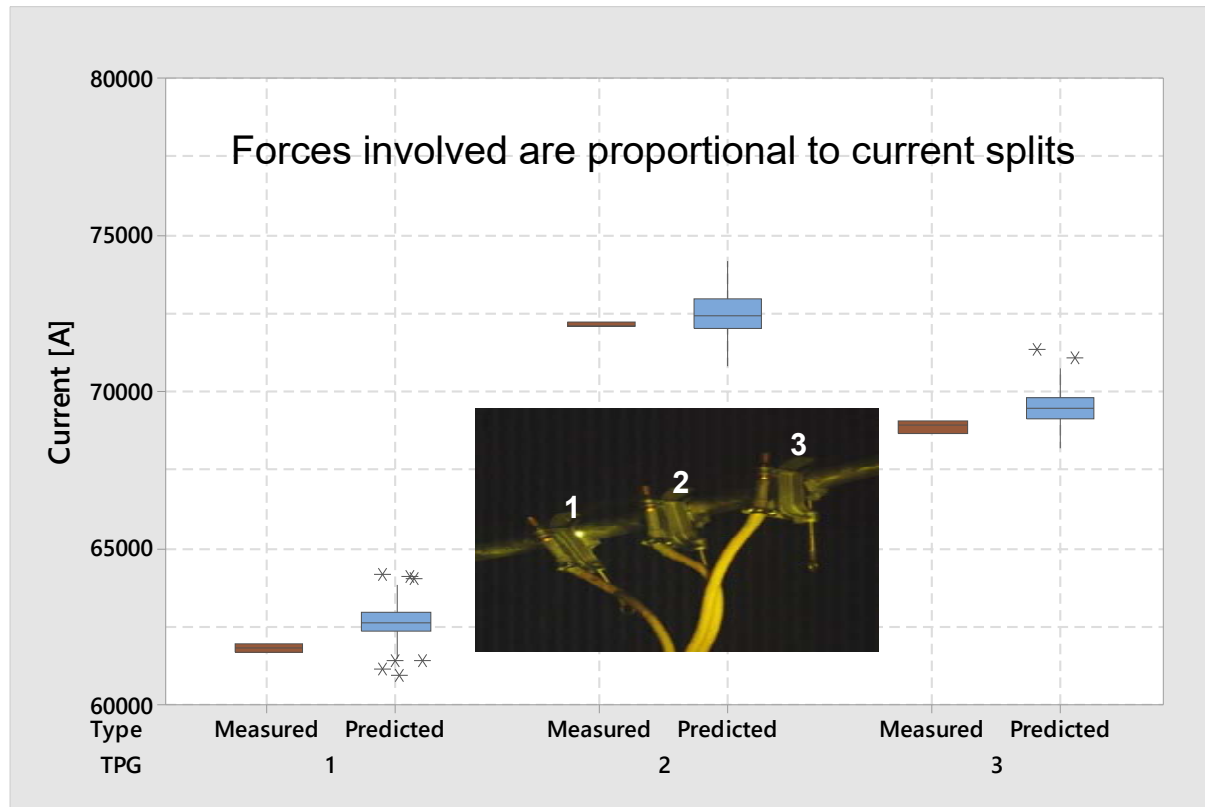


Triple TPG, 12 in spacing, 80 kA RMS

Mechanical and Thermal Failure



Predicting Current Sharing



Measured = Measured data from high power tests
Predicted = Monte Carlo simulation

Summary

- Fault tests are expensive and challenging to perform.
 - Can lead to shrapnel, smoke, and fire
 - Needed to verify strength of the components
- Capabilities of parallel TPG's is not well understood
 - Must de-rate as the mechanical forces increase in magnitude
- In this work, fault test results were used to develop a model for predicting current sharing of parallel TPG's.